

### **Non-Final Office Action**

Claims claims1-3, 5-15, 38, 40-44, 46-55, 83-91, 93-99, 127-136, 163-181, 211-217 and 247-253 are pending. No claim is allowed at this time. Amendments are entered.

### **Summary of this Office Action dated Thursday, November 20, 2008**

1. Double Patenting Rejections
2. Rejection--35 USC § 112 (1) Written Description Rejection
3. Response to Remarks
4. Communication

**Double Patenting Rejection**

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-3, 5-15, 38, 40-44, 46-55, 83-99, 127, 128, 130-136, 164-181, 211-217 and 247-283 rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim of U.S. Patent No.7,045,507 (10/097,634). Although the conflicting claims are not identical, they are not patentably distinct from each other because

claims are generically taught by the issued patent. See column 534 compound in lines 45-50; column 533, 2nd compound; column 565, second last compound; col. 566, 3<sup>rd</sup> last compound; col. 568, whole column; col. 570, 2<sup>nd</sup> compd; col. 569, 3<sup>rd</sup> compd; col. 571, 2<sup>nd</sup> and 4<sup>th</sup> compd; col. 573, last compound; col. 581, 3<sup>rd</sup> compd; col. 591, 2<sup>nd</sup> and 4<sup>th</sup> compd; cols. 594 and 595, 2<sup>nd</sup> compd; col. 601, last compound. See in table 2, col. 129, compd DB; col. 95, compd AR; col. 41, 3<sup>rd</sup> compd. See col. 418, compd TX, col. 413, compd TF and TE; col. 406, TA and TB; col. 398, SP and col. 395, compd SK.

Instant claims differ from the reference in that they are of different generic scope. It had been held by Courts that the indiscriminate selection of “some” from among “many” is considered *prima facie* obvious. In re Lemin, 141 USPQ 814 (1964); National Distillers and Chem. Corp. v. Brenner, 156 USPQ 163.

The instant claimed compounds would have been obvious because one skilled in the art would have been motivated to prepare compounds embraced by the genus of the above cited references with the expectation of obtaining additional beneficial compounds. The instant claimed compounds would have been suggested to one skilled in the art.

One having ordinary skill in the art would have been motivated to select the claimed compounds from the genus in the reference since such compounds would have been suggested by the reference as a whole. It has been held that a prior art disclosed genus of useful compounds is sufficient to render *prima facie* obvious a species falling within the genus. In re Susi, 440 F.2d 442, 445, 169 USPQ 423, 425 (CCPA 1971), followed by the Federal Circuit in Merck & Co. V. Biocraft Laboratories, 874 F.2d 804, 10 USPQ 2d 1843, 1846 (Fed. Cir. 1989).

2. Claims 1-3, 5-15, 38, 40-44, 46-55, 83-99, 127, 128, 130-136, 164-181, 211-217 and 247-283 provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 24, 25, 26 and 29-39 of copending Application No. 11/490,867. Although the conflicting claims are not identical, they are not patentably distinct from each other because R9 in copending application can be alkyl amino which has been claimed in the present application. Therefore, presently claimed invention is considered obvious to the claimed subject matter of the above co-pending application.

3. Examiner notes that in 11/490,867 there are two claims 79. One is cancelled.

Claims 1-3, 5-15, 38, 40-44, 46-55, 83-99, 127, 128, 130-136, 164-181, 211-217 and 247-283 provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over 11/330,700 (claims 24-26 and 29-39, claims are drawn to prodrugs of the tetracyclines); 10/692,764; 10/877,928; 10/921,580; 10/943,5711; 10/996,119; 11/039,230; 11/348,608; 11/490,867; 11/810,336 and 11/803,854. Although the conflicting claims are not identical, they are not patentably distinct from each other because each encompasses 9-aminomethyl tetracycline compounds as defined by the instant claims. Presently claimed invention is broad and covers the compounds of the cited co-pending application when R9 represents alkylamino group. However, the claimed compounds and/or the 9- aminomethyl groups recited by the instant claims are encompassed by the claims of the cited copending applications.

See claim 1 in 10/921,580, 10/943,571, 11/039,230, See claim 1 and 54 in 10/692,764 and claim 47 in 10/996,119.

Aryl, heteroaromatic, amino alky and heterocyclic groups as claimed group as defined in the specification represents large number of substituents which overlaps with several copending applications. In view of large number of copending applicants and issued patents it is very difficult to go through each of them, for the same reason Applicant is requested to point out **most relevant Patents and copending applications.**

Claims 164-173 of the present invention is not obvious over claims of 11/330,700 because in these claims no prodrugs are claimed.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

### **Claim Rejections - 35 USC § 112**

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-3, 5-15, 38, 40-44, 46-55, 83-91, 93-99, 127-136, 163-181, 211-217 and 247-253 rejected under 35 U.S.C. 112, first paragraph, as

failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Following reasons apply:

The prodrug as defined is complex and may "include" thousands of known and unknown compounds. See [0124] where prodrugs are defined as "The term "prodrug moiety" includes moieties which can be metabolized in vivo to an active group and moieties which may advantageously remain attached in vivo. Preferably, the prodrugs moieties are metabolized in vivo by enzymes, e.g., esterases or by other mechanisms to hydroxyl groups or other advantageous groups. Examples of prodrugs and their uses are well known in the art (See, e.g., Berge et al. (1977) "Pharmaceutical Salts", J. Pharm. Sci. 66:1-19). The prodrugs can be prepared in situ during the final isolation and purification of the compounds, or by separately reacting the purified compound with a suitable agent. Hydroxyl groups can be converted into esters via treatment with a carboxylic acid. Examples of prodrug moieties include substituted and unsubstituted, branch or unbranched lower alkyl ester moieties, (e.g., propionic acid esters), lower alkenyl esters, di-lower alkyl-amino lower-alkyl esters (e.g., dimethylaminoethyl ester), acylamino lower alkyl esters (e.g., acetyloxymethyl ester), acyloxy lower alkyl esters (e.g., pivaloyloxymethyl ester), aryl esters (phenyl ester), aryl-lower alkyl esters (e.g., benzyl ester), substituted (e.g., with methyl, halo, or methoxy substituents) aryl and aryl-lower alkyl esters, amides, lower-alkyl amides, di-lower alkyl amides, and hydroxy amides. Preferred prodrug moieties are propionic acid esters and acyl esters". The definition is considered too broad.

3. The method of "treating bacterial infection" is not in the specification. The tetracycline compounds as disclosed in the specification are disclosed

to be useful for the treatment of some bacteria and not all of them. See [00148] where it describes "The tetracycline compounds of the invention may also be used to treat infections traditionally treated with tetracycline compounds such as, for example, rickettsiae; **a number** of gram-positive and gram-negative bacteria; and the agents responsible for lymphogranuloma venereum, inclusion conjunctivitis, psittacosis. The tetracycline compounds may be used to treat infections of, e.g., *K. pneumoniae*, *Salmonella*, *E. hirae*, *A. baumanii*, *B. catarrhalis*, *H. influenzae*, *P. aeruginosa*, *E. faecium*, *E. coli*, *S. aureus* or *E. faecalis*. In one embodiment, the tetracycline compound is used to treat a bacterial infection that is resistant to other tetracycline antibiotic compounds".

4. The citation of "bacterial infection associated with gram positive or gram negative bacteria" is not described. It is not known what is intended by "associated" in claims.

5. The description requirement of the patent statute requires a description of an invention, not an indication of a result that one might achieve if one made that invention. See, e.g., In re Wilder, 22 USPQ 369, 372-3 (Fed. Cir. 1984). (Holding that a claim was not adequately described

because the specification did ‘little more than outline goals appellants hope the claimed invention achieves and the problems the invention will hopefully ameliorate.’)

Mere indistinct terms (such as “prodrug”, “associated” used herein), however, may not suffice to meet the written description requirement. This is particularly true when a compound is claimed in purely functional terms. See Univ. of Rochester v. G.D. Searle, 69 USPQ2d 1886 (CAFC 2004) at 1892, stating:

The appearance of mere indistinct words in a specification or a claim, even an original claim, does not necessarily satisfy that requirement. A description of an anti-inflammatory steroid, i.e., a steroid (a generic structural term) described even in terms of its functioning of lessening inflammation of tissues fails to distinguish any steroid from others having the same activity or function. A description of what a material does, rather than of what it is, usually does not suffice.... The disclosure must allow one skilled in the art to visualize or recognize the identity of the subject matter purportedly described. (Emphasis added).

Conversely, a description of a chemical genus will usually comprise a recitation of structural features common to the members of the genus, which features constitute a substantial portion of the genus. See Univ. of Calif. V. Eli Lilly, 43 USPQ 2d 1398, 1406 (Fed. Cir. 1997). This is analogous to enablement of a genus under Section 112, ¶ 1, by showing the enablement of a representative number of species within the genus.

A chemical genus can be adequately described if the disclosure presents a sufficient number of representative species that encompass the genus. *If the genus has substantial variance, the disclosure must describe a sufficient number of species to reflect the variation within that genus.* See MPEP 2163. The MPEP lists factors that can be used to determine if sufficient evidence of possession has been furnished in the disclosure of the Application. These include the level of skill and knowledge in the art, partial structure, physical and/or chemical properties, functional characteristics alone or coupled with a known or disclosed correlation between structure and function, and the method of making the claimed invention. Disclosure of any *combination of such identifying characteristics that distinguish the claimed invention from other materials* and would lead one of skill in the art to the conclusion that the applicant was in possession of the claimed species is sufficient. MPEP 2163.

Here, the specification does not provide a reasonably representative disclosure of useful [such as antibacterial agents, infections associated with gram positive and gram negative bacteria, prodrugs,] generally, a potentially huge genus inclusive of many different compounds having widely divergent structures and functions. Specifically, the specification

discloses only a limited number of species at page and these are not viewed as being reasonably representative of the genus in its claimed scope because no readily apparent combination of identifying characteristics is provided, other than the disclosure of those specific species as examples of the claimed genus.

### **Response to Remarks**

- Claims are amended therefore 112 (2) rejection is withdrawn.
- Applicants proposed amendments were fully considered however, due to the complexity of the claimed invention, double patenting rejection over the issued patents, written description rejection it was decided to send the office action.
- Double Patenting rejection over US Patent 7,326,696 is withdrawn because terminal disclaimer has been filed and approved.

### **Communication**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sabiha Qazi whose telephone

number is (571) 272-0622. The examiner can normally be reached on any business day except Wednesday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Krass Frederick can be reached on (571) 272-0580. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Sabiha Qazi/  
Primary Examiner, Art Unit 1612

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